

In the matter of:

**WT Docket #16-239
NPRM-11708**

“Amendment of Part 97 of the Commission’s
Amateur Radio Service Rules to Permit Greater
Flexibility in Data Communications”

Comments of:

Fred C. Jensen K6DGW
1229 Ambonnay Ln
Sparks NV 89436
5 September 2016

I have been an Amateur Extra class licensee since 1956 and am currently active on MF/HF and VHF/UHF bands. I submit these comments solely on my own behalf as a licensed amateur radio operator.

When the Commission imposed a limit on symbol rate at §97.309(f) in 1980, data transmission in was essentially FSK, and symbol rate was a good proxy for bit rate and thus, occupied bandwidth. Technological progress in coding, modulation, and information theory since then has rendered that proxy ineffective. Thus, I agree with the Commission's proposal to remove the symbol rate limit since it is no longer effective, as a limit on occupied bandwidth.

I disagree however with the Commission's assertion that imposition of a defined limit for occupied bandwidth of data emissions in the MF/HF Amateur allocations will curtail or inhibit technological advancement by the Amateur Service, and history supports that it has not done so. For example, consider the several very weak signal modes (WSJT, JTxx) developed by Dr. Joe Taylor, K1JT, which permit communications at negative signal-to-noise ratios. They are a significant advancement in weak signal operation. Their development would not have been inhibited in any manner by the 2.8 KHz defined bandwidth requested in ARRL's original 2013 petition.

Amateur allocations in the MF/HF spectrum are small, and are shared among all amateurs, including those outside the United States and the RTTY/Data sub-bands are only a portion of those allocations. Very wide band emissions ... which would be permitted if the current NPRM is ordered ... are not compatible with all of the other current emissions, and a defined bandwidth limit is both appropriate and necessary.

Wide bandwidth experimentation belongs in the VHF and above allocations where there is much more room and where it is now permitted. With no defined limit on occupied bandwidth in the MF/HF allocations, very wide-band emissions such as n-QAM could create signals 20 or more KHz in bandwidth. There simply is not enough room in sub-bands shared by many amateurs for signals with that order of bandwidth.

The original ARRL petition (RM-11708) asked for replacement of the symbol rate limit with a defined bandwidth limit of 2.8 KHz, and I ask the Commission to reconsider its NPRM and include the bandwidth limit of 2.8 KHz for all RTTY/Data emissions below 30 MHz. 2.8 KHz is a slightly wider bandwidth than the widest emissions now permitted and in use for a number of years. Thus, imposition of that limit will not affect any current operations, but will assure that the possibility of very wide-band emissions in the future are restricted from the MF/HF allocations.

Sincerely

Fred C. Jensen K6DGW